Task-5

In [1]:
```
# 1.  Write a Python program to create a class representing a Circle. Include methods to calculate its area and perimeter.
```

In [3]:
```
class circle:
    def __init__(self,radius):
        self.radius=radius
    def area(self):
        print("Area of circle : ",pi*self.radius**2)
    def perimeter(self):
        print("Perimeter of circle : ",2*pi*self.radius)

pi=3.14
x=circle(3)
x.area()
x.perimeter()
```

```
Area of circle :  28.26
Perimeter of circle :  18.84
```

In [4]:
```
# 2. Write a Python program to create a calculator class. Include methods for basic arithmetic operations.
```

In [5]:
```
class calculator:
    def __init__(self,a,b):
        self.a=a
        self.b=b
    def addition(self):
        print("Sum : ",self.a+self.b)
    def subtraction(self):
        print("Difference : ",self.a-self.b)
    def multiplication(self):
        print("Product : ",self.a*self.b)
    def division(self):
        print("Quotient : ",self.a/self.b)

x=calculator(6,3)
x.addition()
x.subtraction()
x.multiplication()
x.division()
```

```
Sum :  9
Difference :  3
Product :  18
Quotient :  2.0
```

In [6]:
```
# 3. Write a Python program to create a class that represents a shape. Include methods to calculate its area and perimeter.
#Implement subclasses for different shapes like circle, triangle, and square.
```

In [8]:
```
class shape:
    def area(self):
        pass
    def perimeter(self):
        pass
class circle(shape):
    def __init__(self,radius):
        self.radius=radius
    def area(self):
        print("Area of circle : ",pi*self.radius**2)
    def perimeter(self):
        print("Perimeter of circle : ",2*pi*self.radius)
class triangle(shape):
    def __init__(self,s1,s2,s3,base,height):
        self.s1=s1
        self.s2=s2
        self.s3=s3
        self.base=base
        self.height=height
    def area(self):
        print("Area of triangle : ",0.5*self.base*self.height)
    def perimeter(self):
        print("Perimeter of triangle : ",self.s1+self.s2+self.s3)
```

```
class square(shape):
    def __init__(self,a):
        self.a=a
    def area(self):
        print("Area of square : ",self.a**2)
    def perimeter(self):
        print("Perimeter of square : ",4*self.a)

pi=3.14
x=circle(2)
y=triangle(2,3,4,3,4)
z=square(4)
x.area()
x.perimeter()
y.area()
y.perimeter()
z.area()
z.perimeter()
```

```
Area of circle :  12.56
Perimeter of circle :  12.56
Area of triangle :  6.0
Perimeter of triangle :  9
Area of square :  16
Perimeter of square :  16
```

In [ ]: